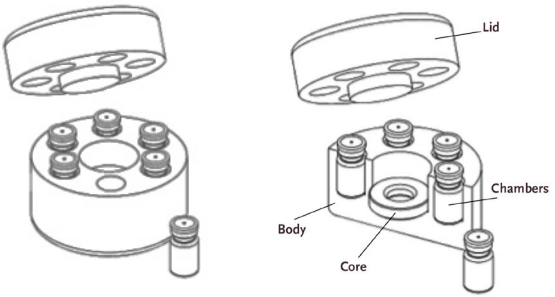
CoolCell® SV10

Instructions for Use
BCS-262

Controlled-rate cell freezing container



Quick Start

- The six chambers and 10ml serum vials should be dry to avoid vial sticking upon freezing.
- Make sure the core (black ring) is at room temperature and seated in the bottom of the central cavity.
- Place sample vials, each containing 5ml of cell suspension, in each well. For reproducible freezing profiles, each well should contain a filled vial; "blank" vials containing 5ml of freezing medium should be placed in empty chambers if freezing less than six vials of cell suspension.
- Check that the tubes slide in and out freely.
- Fully seat the lid on CoolCell SV10 container.
- Place CoolCell SV10 container into a -80°C freezer or dry ice locker. Ensure that there is at least one inch of free space clearance around the CoolCell SV10 module.
- Freeze for four hours before transferring samples to archive storage.

Transferring frozen samples to archive storage

- Prepare an insulated pan or container with a one inch (2.5cm) layer of pulverized or pellet dry ice.
- Remove CoolCell SV10 container from the freezer and gently remove the lid using a twisting and rocking motion.
- Vial tops will be exposed once lid is removed and vials should be quickly placed onto the dry ice.

Special Notes:

- Always use dry ice to transfer frozen vials containing cells to permanent storage to avoid temperature rise and cell damage. Vial contents can rise from -80°C to over -50°C in less than one minute if exposed to room temperature air.
- It is strongly recommended that all frozen cell cultures be checked for viability before the stock culture is terminated.

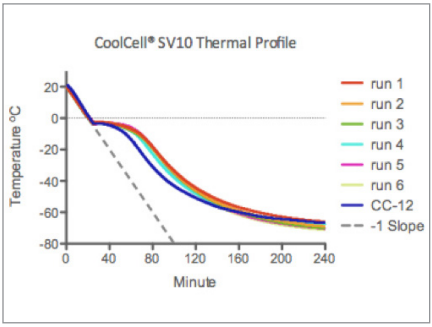
Recycling CoolCell SV10 to room temperature

The CoolCell SV10 container is ready to freeze again as soon as the core (black ring) is at room temperature. To rapidly recycle CoolCell SV10 container to room temperature, remove the center solid core ring by inverting and tapping on a surface. The CoolCell SV10 body and lid will return to room temperature in 10 to 15 minutes. Check that all chambers are dry. Dry the core ring before re-inserting into the central chamber.

About CoolCell SV10

The CoolCell SV10 container, in combination with a -80°C freezer or dry ice locker, will provide the freezing rate of -1°C per minute that is ideal for cryo-preservation of most cultured cell lines. The CoolCell SV10 design uses a combination of insulation foam, radial symmetry, and a heat transfer core to regulate heat loss rather than using a large thermal mass (alcohol-based freezing container).

As a result, freezing profiles are extremely consistent from one run to the next. Also, because of this low thermal mass, the CoolCell SV10 container will not cause a rise in local freezer temperature and will protect nearby samples already stored in the freezer. Low thermal mass also means CoolCell SV10 container will rapidly return to room temperature for another freezing cycle (see fast recycle instructions above).



CoolCell SV10 freezing performance

The CoolCell SV10 container will freeze six serum vials each containing 5ml of cell suspension at -1°C per minute when placed in a -80°C environment (mechanical freezer or dry ice locker). The graph (left) displays a typical freezing profile obtained using these conditions.
Note: "CC-12" refers to CoolCell 12-well 1ml cryovial freezer, #BCS-136.

Troubleshooting

Problem	Solution
Vials do not freely fit in the chambers	The CoolCell SV10 container is designed to fit standard serum vial shaped vessels up to 23mm in diameter and up to 47 mm in height. Check that flag style labels, if used, will not bind and hinder insertion or removal.
Vials are stuck in CoolCell SV10 after freezing	It is likely moisture was in the vial chambers or on the sample vial prior to freezing. Remove the core (black ring) and tap the CoolCell SV10 to dislodge vials.
The lid does not fully seat	Ensure that sample vials are properly seated. The maximum height of the tube is 47mm.

Care and cleaning

The CoolCell SV10 container is constructed of closed cell crosslinked polyethylene foam and a solid thermo-conductive core. CoolCell SV10 container is compatible with prolonged cryogenic temperature exposure. The foam may be cleaned by water and mild soap. Rinse and dry thoroughly. CoolCell SV10 container is resistant to alcohols and 10% bleach solutions. Do not autoclave. Maximum temperature exposure: 60°C. Avoid prolonged exposure to UV light sources.

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